



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/581,306

06/01/2006

Mitsukuni Sakashita

SH-0063PCTUS

3704

21254 7590 01/05/2010  
MCGINN INTELLECTUAL PROPERTY LAW GROUP, PLLC  
8321 OLD COURTHOUSE ROAD  
SUITE 200  
VIENNA, VA 22182-3817

EXAMINER

DEGHAN, QUEENIE S

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

01/05/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,306	<b>Applicant(s)</b> SAKASHITA, MITSUKUNI	
	<b>Examiner</b> QUEENIE DEGHAN	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 8 recites the step of depositing glass fine particles on the outer surface of the core rod. However, claim 8 depends from claim 7 now, which recites that a glass tube is welded to the outer surface of the core rod. It is unclear how a deposition step can be performed on the surface of the core rod when a tube is welded to the surface.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida (2002/0073741) in view of Nunome et al (2003/0110811) and Chang et al. (EP 1 104 891). Ishida discloses a method for manufacturing glass base material comprising forming porous preform comprising a Germanium doped core and an inner silica clad layer surrounding the core and having a lower refractive index than the core

Art Unit: 1791

([0034]-[0036]), vitrifying the porous preform into transparent glass ingot that is 80mm in diameter ([0044]), heating and elongating the ingot in an axial direction in an electric furnace into a core rod ([0046]), forming an outer clad layer surrounding the core rod by depositing on the outer surface of the rod to form a porous glass body ([0051]-[0053]), and vitrifying the porous glass body into a transparent glass body ([0061]).

3. Ishida discloses fabricating a porous core rod having a ratio of the outer diameter (d) of the core to the outer diameter (D) of the first cladding of  $D/d \geq 4.0$  (abstract), which the equivalent of a  $d/D$  ratio of 0.25. Ishida emphasizes having a greater  $D/d$  ratio in order to ensure low OH group concentration in the core ([0068]). Nunome similarly teaches fabricating a preform comprising a core, a first cladding with a lower refractive index than the core and a second cladding, wherein the value of  $D/d$  is  $>4.8$ , which is smaller than a  $d/D$  of 0.21 ([0013]). Ishida teaches the greater the  $D/d$  ratio, the less OH groups would diffuse to the core. Accordingly it would have been obvious to one of ordinary skill in the art at the time of the invention to have made the glass body of Ishida to have a  $D/d$  ratio of  $>4.8$  in order to minimize the OH diffusion into the core.

4. Ishida also teaches applying a second cladding on the core rod, but does not teach a rod in tube method. Chang teaches forming a porous glass material comprising a core part doped with germanium and an inner clad layer that has a lower refractive index than the core part surrounding the core ([0021]), transforming the porous glass material into a transparent glass ingot ([0024]), heating and elongating the core ingot in an axial direction to make a core rod and forming a outer clad layer by welding a glass tube on the surface of the core rod ([0034]). Chang presents another well known way

Art Unit: 1791

for applying an outer clad layer onto a core rod. Chang also express a concern for OH diffusion into the core ([0022]). It would have been obvious to one of ordinary skill in the art at the time of the invention to have welded a glass tube as a well known alternative way for forming an outer clad layer on the core rod of Ishida as it is expected to have achieve the predictable result of obtaining a preform with the necessary cladding layer and a low OH diffusion into the core.

5. Regarding claim 5, Ishida teaches elongating the core ingot to a core rod with a diameter of 36mm and a ratio  $D/d$  of greater than 4.0, i.e. 4.1 ([0013], [0047]). Since  $D$  is 36, then  $d$  is 9, which means the thickness of the inner clad layer is greater than 1mm.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida (2002/0073741), Nunome (2003/0110811) and Chang et al. (EP 1 104 891), as applied to claim 7 above, in view of Kudo et al. (JP Abstract 2000-086265). Ishida teaches using an electric furnace but does not specify a heat insulator. Kudo teaches a furnace for heating a porous preform, wherein a heat insulator for the electric furnace comprises carbon material containing less than 810ppm ash (abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the heat insulator with a carbon material containing less than 810ppm ash in the electric furnace of Ishida in order to prevent impurities from entering the preform from the heating furnace.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida (2002/0073741), Nunome (2003/0110811) and Chang et al. (EP 1 104 891), as applied

Art Unit: 1791

to claim 7 above, in further view of Hirano et al. (2003/0145630). As mentioned above Ishida discloses a core rod that has been elongated, the deposition of glass fine particles on the rod to form a porous glass body, and vitrifying the porous body into a transparent glass ([0051]-[0053], [0061]). However, Ishida does not teach an etching step. Hirano teaches etching the outer surface of the core rod with fluorine prior to adding an outer clad layer ([0187]). Like Ishida, Hirano is also concerned with OH diffusion into the core. It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the etching of the core rod step in the method of Ishida in order to remove OH impurities that had adhered to core rod during processing prior to adding an outer cladding.

8. Claim 10 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ishida (2002/0073741). Ishida discloses a glass base material (abstract). In the event any differences can be shown for the product of the product-by-process claim 10, as opposed to the product taught by the reference of Ishida, such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results. The product in the product-by-process claim 10 is the same as or obvious from a product of the prior art. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

### ***Response to Arguments***

9. Applicant's arguments filed September 22, 2009 have been fully considered but they are not persuasive. The applicant argues Chang teaches away from the electric

Art Unit: 1791

furnace for the elongation of the core ingot. As discussed above, the Chang reference was used to teach a well known method for overcladding a core rod such as rod in tube. Chang was not used to teach a method for making a core rod, but instead similarities between the method of preparing a core rod of Chang and Ishida were pointed out. In fact, the Ishida reference teaches the claimed method steps for preparing the core rod including elongating the core ingot in an electric furnace. There is no intention to apply an oxygen hydrogen torch to the elongation of the core ingot of Ishida, especially since Ishida already discloses utilizing an electric furnace.

10. The applicant cites MPEP § 2143.01 (III). The applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. It is assumed the applicant is referencing the Chang reference. The Chang reference does teach the result of overcladding with a rod in tube method would have been predictable to one of ordinary skill in the art for achieving the necessary cladding thickness.

11. The applicant further argues unexpected results to be achieved from the features of claim 7. The applicant compares examples presented in the specification of the instant application. However, the applicant does not discuss how the current references do not meet these unexpected results, especially since the references teach the features of the invention. Furthermore, the applicant argues that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., specific transmission losses) are not recited in the rejected

Art Unit: 1791

claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUEENIE DEGHAN whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 9:00am - 5:30pm.



Art Unit: 1791

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/

Supervisory Patent Examiner, Art

Unit 1791

Q Dehghan